CLAIM AMENDMENTS

This listing of claims will replace all prior versions and listings of claims in the application:

1-20. (canceled)

21. (previously presented) A vaccine which is protective in a bovine species against respiratory disease resulting from *Mycoplasma* infection comprising
(a) at least two inactivated *Mycoplasma bovis* biotypes;
(b) inactivated *Mycoplasma alkalescens*;
(c) an adjuvant; and
(d) a pharmaceutically acceptable excipient.

22. (currently amended) The vaccine of claim 21 further comprising antigenic material of ~~other~~ viruses or microorganisms other than *Mycoplasma bovis* and *Mycoplasma alkalescens* known to be bovine pathogens.

23. (currently amended) The vaccine of claim 22 where the antigenic material is from *Staphylococcus aureus, Pasteurella hemolytica, Pasteurella multocida,* ~~*Hemophilus*~~ *Haemophilus somnus*, Bovine Respiratory Syncytial Virus, Bovine Diarrhea Virus, *E. coli* or Infectious Bovine Rhinotrachial Disease.

24. (previously presented) The vaccine of claim 21 where the adjuvant is an aluminum hydroxide-oil emulsion; a mineral, vegetable, or fish oil-water emulsion; a water-oil-water emulsion; incomplete Freund's adjuvant; *E. coli* J5; dextran sulfate; iron oxide; sodium alginate; Bacto-Adjuvant; a synthetic polymer; Carbopol; a poly-amino acid; a co-polymer of amino acids; saponin; carrageenan; REGRESSIN®; N, N-dioctadecyl-N'-N'-bis(2-hydroxyethyl) propanediamine; a long chain polydispersed β(1,4) linked mannan polymer interspersed with O-acetylated groups; deproteinized cell wall extracts from a non-pathogenic strain of *Mycobacterium*; mannite monooleate; paraffin oil; or muramyl dipeptide.

25. (previously presented) The vaccine of claim 21 where the respiratory disease is respiratory pneumonia.

26. (previously presented) A vaccine composition comprising
(a) an immunologically effective amount of (i) at least two inactivated *Mycoplasma bovis* biotypes and (ii) an inactivated *Mycoplasma alkalescens*, wherein said immunologically effective amount is protective in a vaccinate against Bovine Respiratory Disease resulting from *Mycoplasma* infection;
(b) an adjuvant; and
(c) a pharmaceutically effective carrier.

27. (currently amended) The vaccine of claim 26 further comprising antigenic material of ~~other~~ viruses or microorganisms other than *Mycoplasma bovis* and *Mycoplasma alkalescens* known to be bovine pathogens.

28. (currently amended) The vaccine of claim 27 where the antigenic material is from *Staphylococcus aureus, Pasteurella hemolytica, Pasteurella multocida, ~~Hemophilus~~ Haemophilus somnus*, Bovine Respiratory Syncytial Virus, Bovine Diarrhea Virus, *E. coli* or Infectious Bovine Rhinotrachial Disease.

29. (previously presented) The vaccine of claim 26 where the adjuvant is an aluminum hydroxide-oil emulsion; a mineral, vegetable, or fish oil-water emulsion; a water-oil-water emulsion; incomplete Freund's adjuvant; *E. coli* J5; dextran sulfate; iron oxide; sodium alginate; Bacto-Adjuvant; a synthetic polymer; Carbopol; a poly-amino acid; a co-polymer of amino acids; saponin; carrageenan; REGRESSIN®; N, N-dioctadecyl-N'-N'-bis(2-hydroxyethyl) propanediamine; a long chain polydispersed β(1,4) linked mannan polymer interspersed with O-acetylated groups; deproteinized cell wall extracts from a non-pathogenic strain of *Mycobacterium*; mannite monooleate; paraffin oil; or muramyl dipeptide.

30. (previously presented) The vaccine of claim 26 where the respiratory disease is respiratory pneumonia.

31. (new) The vaccine of claim 21 where the at least two inactivated *Mycoplasma bovis* biotypes are genetically different as determined by an analysis of DNA or RNA from the biotypes.

32. (new) The vaccine of claim 31 wherein the analysis is by PCR fingerprinting, analysis of ribosomal RNA, or analysis of DNA polymorphisms.

33. (new) The vaccine of claim 32 wherein the analysis is by PCR fingerprinting.

34. (new) The vaccine of claim 33 wherein the PCR fingerprinting uses arbitrarily chosen primers.

35. (new) The vaccine of claim 34 wherein the PCR fingerprinting uses as primers 5' NNN NCG NCG NCA TCN GGC 3' (SEQ ID NO:1) and 5' NCG NCT TAT CNG GCC TAC 3' (SEQ ID NO:2).

36. (new) The vaccine of claim 21 wherein the at least two *Mycoplasma bovis* biotypes have been identified as being different biotypes by a process comprising:
(a) isolating DNA from the biotypes;
(b) amplifying the DNA by PCR;
(c) separating the amplified DNA by gel electrophoresis; and
(d) comparing the resulting patterns from the gel electrophoresis to identify the different biotypes.